

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the Application.

Listing of Claims:

1.-29. (Cancelled)

30. (Currently amended) A process for forming a thin film of material from a substrate, the process comprising the steps of:

(a) introducing a first species of gaseous compounds to form a buried confinement layer at a distance from a surface of the substrate, wherein the confinement layer comprises a trap zone for a second species of gaseous compounds:

(b) introducing the second species of gaseous compounds into the substrate, at a mean depth substantially within or in proximity to the confinement layer, thereby inducing a layer of micro-cavities along a fracture plane, wherein the confinement layer reduces the thickness of the layer of micro-cavities as compared to the thickness in the absence of the confinement layer; and

(c) separating and recovering the thin film from the substrate along the fracture plane.

31. (Previously presented) The process according to claim 30, wherein introducing the second species of gaseous compounds comprises implanting the second species of gaseous compounds into the substrate at a mean depth of penetration corresponding to a depth of the confinement layer.

32. (Previously presented) The process according to claim 30, wherein introducing the second species of gaseous compounds comprises implanting the second species of gaseous compounds into the substrate at a mean depth of penetration close to the confinement layer, and wherein the process further comprises the step of heat treating the substrate following implantation of the second species of

gaseous compounds so as to cause migration of the second species of gaseous compounds to the confinement layer.

33. (Previously presented) The process according to claim 30, wherein the substrate comprises a main part that supports a film structure in which the thin film is delimited.

34. (Previously presented) The process according to claim 33, wherein all or part of the film structure is formed by a process comprising epitaxial growth.

35. (Previously presented) The process according to claim 30, wherein a main part of the substrate comprises a reusable substrate.

36.-38. (Cancelled)

39. (Previously presented) The process according to claim 30, wherein the second species of gaseous compounds has a chemical affinity with the first species of gaseous compounds.

40.-41. (Cancelled)

42. (Previously presented) The process according to claim 33, wherein introducing a first species of gaseous compounds comprises implantation of neutral compounds in a layer of the substrate.

43. (Previously presented) The process according to claim 39 further comprising the step of heat treating the substrate so as to increase trapping efficiency of the second species of gaseous compounds.

44. (Previously presented) The process according to claim 39 further comprising the step of heat treating the substrate so as to modify morphology of the confinement layer.

45.-46. (Cancelled)

47. (Previously presented) The process according to claim 30, wherein introducing the second species of gaseous compounds comprises bombardment of neutral compounds or ions.

48. (Previously presented) The process according to claim 30, wherein introducing a first species of gaseous compounds comprises one of implantation by plasma assisted diffusion, thermal diffusion, or plasma assisted diffusion combined with thermal diffusion or diffusion assisted by electrical polarization, or plasma assisted diffusion combined with thermal diffusion and diffusion assisted by electrical polarization.

49. (Previously presented) The process according to claim 30 further comprising a heat treatment step for weakening the substrate at the confinement layer so as to facilitate separation between the thin film and a remainder of the substrate.

50. (Previously presented) The process according to claim 30 further comprising a step of placing the thin film in intimate contact with a support to which the thin film will bond after separation from a remainder of the substrate.

51. (Previously presented) The process according to claim 50, wherein placing the thin film in intimate contact with a support comprises bonding the thin film to the support.

52. (Previously presented) The process according to claim 49, wherein the heat treatment step comprises pulse heating.

53. (Previously presented) The process according to claim 30, wherein separating the thin film from the substrate comprises applying mechanical stress.

54. (Previously presented) The process according to claim 30, wherein forming a thin film of material from a substrate comprises forming a thin film of material from a silicon substrate.

55. (Previously presented) The process according to claim 30, wherein forming a thin film of material from a substrate comprises forming a thin film of material from a III-V semiconducting material.

56. (Previously presented) The process according to claim 30, wherein forming a thin film of material from a substrate comprises forming a thin film of material from a structure comprising thin films.

57. (Previously presented) The process according to claim 30 further comprising the step of at least partially treating the thin film before separating the thin film from the substrate to form an integrated circuit on all or part of the thin film.

58. (Previously presented) The process according to claim 30 further comprising the step of at least partially treating the thin film before separating the thin film from the substrate to form an optoelectronic component on all or part of the thin film.

59. (Previously presented) A process for forming a thin film of material from a substrate, comprising the steps of:

(a) forming a gaseous compound trap zone at a depth in the substrate corresponding to a required thickness of the thin film, wherein the gaseous compound trap zone is defined by a parametric mismatch between a material comprising the gaseous compound trap zone and adjacent regions of the substrate;

(b) introducing into the material, a dose of gaseous compounds sufficient to cause formation of micro-cavities in a fracture plane along which the thin film can be separated from the remainder of the substrate,

wherein the introduction of gaseous compounds comprises a step of implantation of the gaseous compounds; and

(c) separating and recovering the thin film from the substrate along the fracture plane by placing a support in intimate contact with the substrate such that the thin film bonds to the support.

60. (Previously presented) The process according to claim 33, wherein introducing a first species of gaseous compounds comprises implantation of ions in a layer of the substrate.

61. (Previously presented) The process according to claim 30, wherein the second species of gaseous compounds comprises implantation of a rare gas.

62. (Previously presented) The process according to claim 30, wherein introducing a first species of gaseous comprises implantation of boron and introducing the second species of gaseous compounds comprises implantation of hydrogen.

63. – 96. (Cancelled)